

Use of Er:YAG laser for benign skin disorders

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KEYWORDS

Er:YAG laser • layer-by-layer • lesions • penetration depth • skin ablation • skin coagulation

ABSTRACT

Background and Objective

The Er:YAG laser is of special interest in dermatology and cosmetic surgery since it ablates and cuts tissue with surgical precision with minimal collateral thermal damage due to the wavelength of the Er:YAG radiation (2,940 nm), which is strongly absorbed by liquid water in tissue. The study was designed to establish optimal laser parameters for treating various skin disorders.

Study Design/Materials and Methods

Sixty-four patients were treated for benign skin disorders: seborrheic warts, plane warts, milia, xanthelasma palpebrarum, hidradenoma, chloasma, senile lentigo, epidermal naevi, actinic keratosis, fibroepithelial papillomata, scars. The lesions were irradiated with single pulse laser energies 100-1,000 mJ, repetition rates 2-10 Hz, and spot diameters 2-8 mm.

Results

Epidermis was effectively removed on a layer-by-layer basis. For the ablation, energy densities higher than 2.5 J/cm² were required. If bleeding appeared, the hemostatic effect was achieved by irradiating the bleeding surface with few Er:YAG laser pulses of lower power density (0.5-1.5 J/cm²). Healing was excellent and without apparent scarring.

Conclusion

It was established that Er:YAG laser with properly selected parameters offers a tool for tissue ablation and/or coagulation. The Er:YAG laser was found to be a perfect option for effective treatment of benign skin disorders. *Lasers Surg. Med.* 21:13-19, 1997. © 1997 Wiley-Liss, Inc.

Treatment of condyloma acuminata with carbon dioxide laser: A prospective study

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condyloma • cancer • cervix • carbon dioxide (CO₂) laser • human papilloma virus (HPV) • dysplasia • koilocytosis

ABSTRACT

The common wart has been a ubiquitous problem throughout recorded history. In recent times, the genital wart has assumed more and more importance. These viral growths cause itching and burning as well as more severe problems. Treatment traditionally has included a large variety of preparations from nature. Subsequently, man-made chemicals were used along with freezing, burning, and surgical excision. Because of the pain, bleeding, scarring, and high recurrence rate with these treatments, a study was instituted in 1978 to evaluate the advantages of the CO₂ laser for treatment of this condition. Results have been excellent. far exceeding what we expected. Recurrence rate has been under 2%. The control group had the usual high rate of persistence and recurrence. Recent work pointing to a strong association between human papilloma virus (HPV) and cancer of the female genitals suggests an increasing need for early, vigorous, and more effective treatment of these lesions.